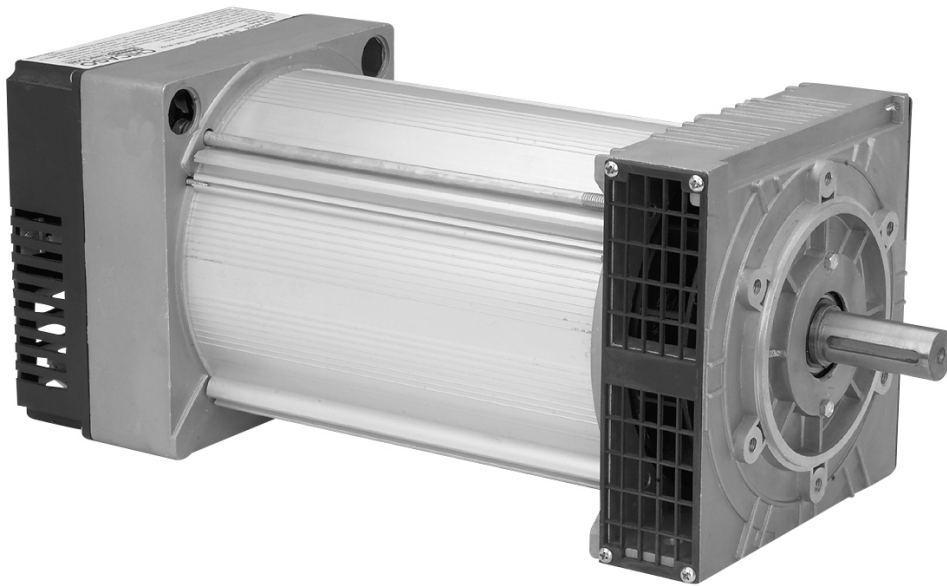


CHICAGO
Electric Power Tools

10 KW GENERATOR

Model 45416

ASSEMBLY AND OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at <http://www.harborfreight.com>

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For technical questions and replacement parts, please call 1-800-444-3353

REV 09/03

Specifications

ITEM	DESCRIPTION
Power Output	10,000 watts (maximum), 7200 watts continuous (rated); 60 Hz
Voltage Output	2 - 120 VAC (20 amp), single phase duplex receptacle; 1 - 120 / 240 VAC (30 amp), single phase twistlock receptacle
Motor Driver Requirements	3600 RPM, 16 HP
Drive Type	Belt driven
Drive Shaft	1 inch (dia.) meter; length: 2-3/8 inches; Keyway: 1/4 (W) x 2 (L) inches
Generator operation	2-pole, revolving field, brushless excitation

 **WARNING** THIS GENERATOR IS NOT INTENDED TO POWER SENSITIVE ELECTRONIC EQUIPMENT WITHOUT THE ADDITION OF AN APPROPRIATE LINE CONDITIONER (SOLD SEPARATELY).

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Do not force tool.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool capacity.
6. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
7. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.

8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician.
10. **Disconnect power.** Unplug connected appliances when not in use.
11. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before turning on.
12. **Avoid unintentional starting.** Be sure that all connected appliances are Off before starting the generator.
13. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
14. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.
15. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
16. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
17. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
18. **Use proper size and type extension cord.** If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. Depending on the appliance connected to the generator, the use of an extension cord should have a **0 to 20 amp** capability (up to 50 feet), with wire size rated at **14 AWG**. Longer extension cords require larger size wire. If you are using the tool outdoors, use an extension cord rated for outdoor use. (signified by "WA" on the jacket).
19. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.

WARNING

An extension cord that is hot to the touch is overloaded. Repair or replace damaged extension cords immediately.

Electric Generator Safety Precautions and Warnings

1. The Generator produces electrical current. Improper use can result in electrocution, injury or death. Only a qualified technician should service or repair this generator.
2. The Generator was designed to be used in a dry area. Do not expose to rain, snow, sleet, or damp conditions. Damage to the Generator could occur. Moisture can carry electrical current and could cause electrocution.
3. If the Generator is connected to a building, home, business, or any other electrical circuit normally fed by utility power, steps must be taken to ensure that the Generator output and the utility power are positively isolated. Do not plug other appliances into the electrical outlet being used to power the Generator. Failure to isolate the systems will result in Generator damage. It could also result in personal injury or death to those working around these circuits. Any connection in this regard must only be done by a licensed electrician.
4. Do not exceed the Generator's rated capacity. The total electrical loads at each outlet must be added to determine the total electrical load. If the electrical appliance does not list the wattage rating, you can calculate it by multiplying amps times voltage (amps x voltage = watts).
5. Do not tamper with the drive, engine-governed speed. The Generator operates at a nominal speed of 3600 RPM. Increases in speed could damage rotating parts of the Generator. Slower speeds could damage the Generator or appliances connected to the Generator due to low voltage.
6. Always follow national and local safety codes.
7. Do not start the Generator with appliances connected and turned on.
8. If the driver motor is a gas engine, do not use in an enclosed area due to the carbon monoxide fumes produced. The fumes can be deadly.
9. Give the Generator at least two feet of space to dissipate heat.
10. Properly ground the Generator. The National Electrical Code requires that the Generator frame be properly grounded to earth. This should be done by a licensed electrician.
11. Never handle electrical charged extension cords while standing in water.
12. Only use 3-prong, grounded extension cords.
13. Keep fingers and hands away from the spinning pulleys.
14. Install a safety guard around the pulleys.
15. **WARNING!** People with pacemakers should consult their physician(s) before using this product. Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker.

Grounding Instruction: This generator should be grounded to help prevent accidental electrical shock. Drive a 3/4" or 1" diameter copper pipe or rod into the ground close to the generator set. The pipe must penetrate moist earth. Using #10 gauge wire, connect one end of the wire to the generator frame. Connect the other end of the wire to the copper pipe or rod using an approved ground clamp.

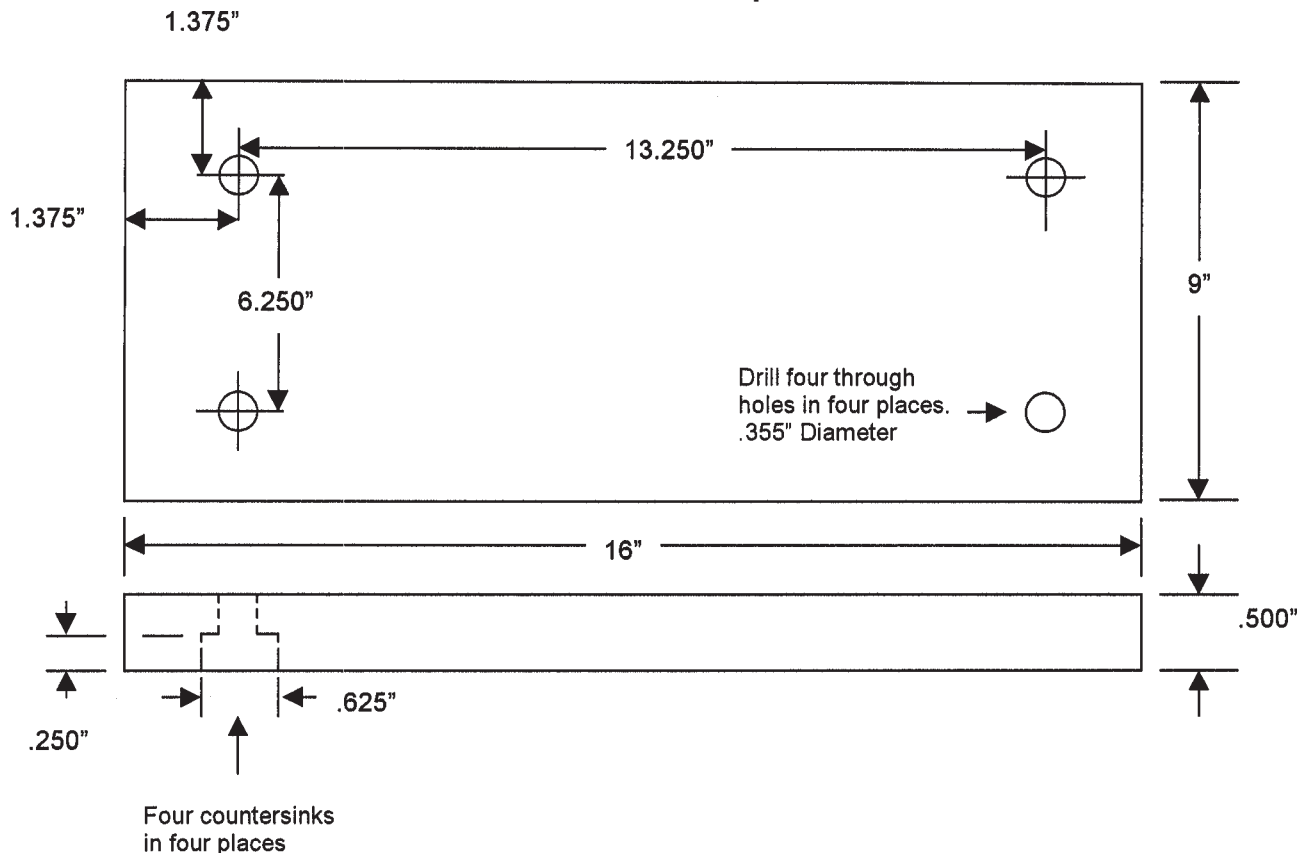
Note: Performance of this tool may vary depending on variations of the power driver motor.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

MOUNTING PLATE FOR GENERATOR / ALTERNATOR 10KW SKU 45416

A mounting plate (not included), similar to the one illustrated below, will need to be provided by the customer to properly and safely mount and operate the generator/alternator. The plate is needed to properly tension the drive belt used to drive generator/alternator. Drawing below is for reference only and customer may need to make further modification to mounting plate and their generator frame for the proper and safe mounting of the generator/alternator. The drawing gives dimensions for the plate and generator/alternator footprint.

Material: 1/2" steel plate



DRAWING NOT TO SCALE, FOR REFERENCE ONLY !!

THE MANUFACTURE AND OR DISTRIBUTOR HAS PROVIDED THE MOUNTING PLATE DIAGRAM AS A REFERENCE TOOL ONLY. THE CUSTOMER CAN CHOOSE TO DESIGN, MANUFACTURE AND USE THEIR OWN MOUNTING PLATE. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER MANUFACTURING OF A MOUNTING PLATE THAT IS NOT INSTALLED PROPERLY AND SAFELY MANUFACTURED.

MOUNTING PLATE FOR GENERATOR / ALTERNATOR 10KW SKU 45416

The customer will need to supply the following hardware (not included):

- 1) (4) Grade 3, 5/16" -18 x 1-1/4"L hex-head bolts
- 2) (4) 5/16" -18 hex nuts
- 3) (4) 5/16" lock washers
- 4) (4) 5/16" flat washers

INSTRUCTIONS – INSTALLING GENERATOR/ALTERNATOR ON MOUNTING PLATE

- 1) Remove both fan covers (part# 26) from shaft end of generator/alternator.
- 2) Remove wiring box (part# 10) from opposite end of generator/alternator shaft.
- 3) Place generator/alternator so that through holes on bottom of generator/alternator are readily accessible (facing up).
- 4) Place mounting plate, with countersinks holes facing up, on bottom of generator/alternator and line-up holes on mounting plate and generator/alternator.
- 5) Insert one (1) 5/16"-18 hex-head bolt in each through hole in mounting plate and generator/alternator. Insure that heads of bolts are below the surface of the mounting plate.
- 6) Place one (1) flat washer, lock washer and hex nut on each bolt and tighten.
- 7) Turn and place generator/alternator back on mounting plate.
- 8) Replace both fan covers (part# 26) and wiring box (part#10).

This completes the installation of the mounting plate to the generator/alternator. Customer is now to proceed to the Installation portion of the manual to complete the mounting of the generator/alternator and mounting plate to generator frame. Again, it may be necessary for the customer to further modify the mounting plate and generator frame to complete installation.

Unpacking

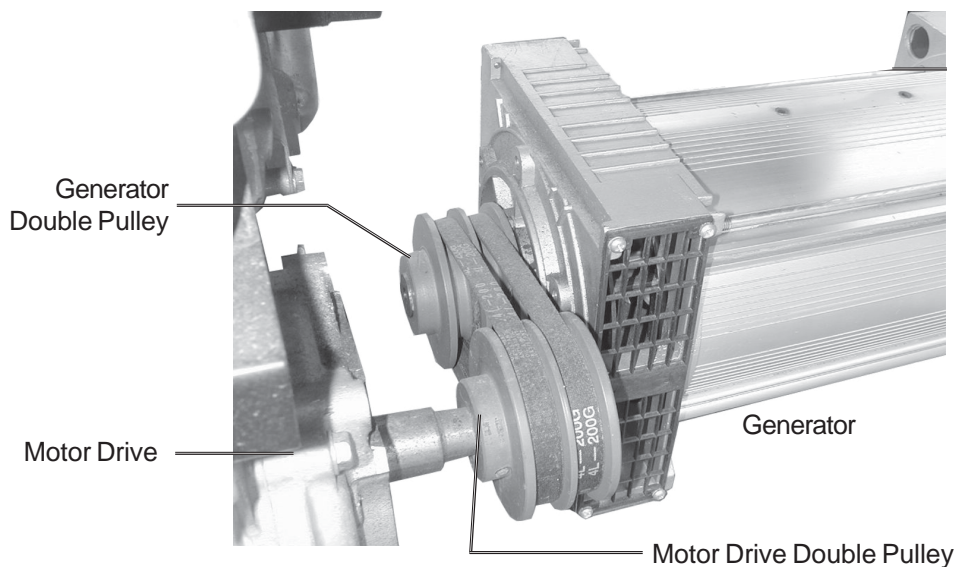
When unpacking, check to make sure the Generator is complete. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.

Installation

1. Verify that the driver motor is securely mounted to a stable surface (see Mounting Plate instructions on pages 5 and 6), and belt pulleys properly attached. Refer to the photo below.
2. Mount the double pulley (not supplied) onto the Generator (1 inch) shaft. Make sure that the pulley set screws are properly tightened.
3. On the same surface, mount the Generator, offset to the shaft of the motor driver.

The belts should be placed on the pulleys to determine the proper distance between drive shafts. Allow room for adjustments after mounting the Generator.

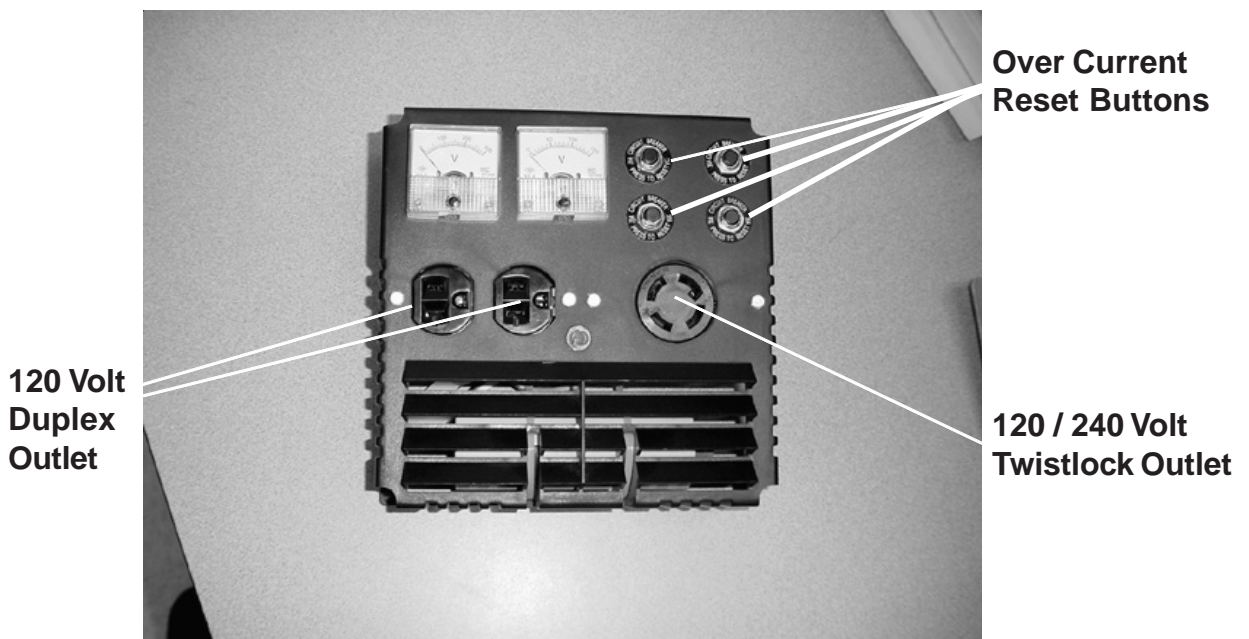
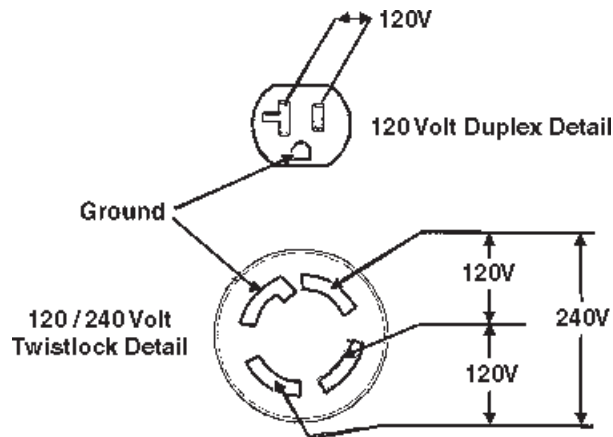
4. For safe operation, install a pulley guard (not included) around both pulleys.



Operation

1. Plug in the extension cords or appliances, making sure they are turned off.
Refer to the connector wiring illustration on the next page. Do not overload the Generator. Calculate the total wattage of the appliances. Generator maximum power output is 10,000 watts.
2. Start the motor driver.
3. Begin using the appliances when the motor driver is at full speed.
4. If electricity to one of the outlets stops, it could be that the circuit was overloaded. Check you appliance wattage, then push in on the Reset button to resume power.

- When you are finished using the Generator, stop the motor driver, then disconnect the appliances.



Maintenance

WARNING: Before performing any maintenance on the Generator, the motor driver must be off, and the Generator must be allowed to cool down after use.

- Clean the Generator with compressed air. Do not blow directly into the heat vents. Do not immerse in water. Use a damp cloth do wipe clean.
Never insert rags, tools, or any device into the Generator openings.
- Periodically operate the Generator.
- Store in a clean and dry location.
- Check and tighten belts when they become loose.
- Check and tighten pulley set screws.

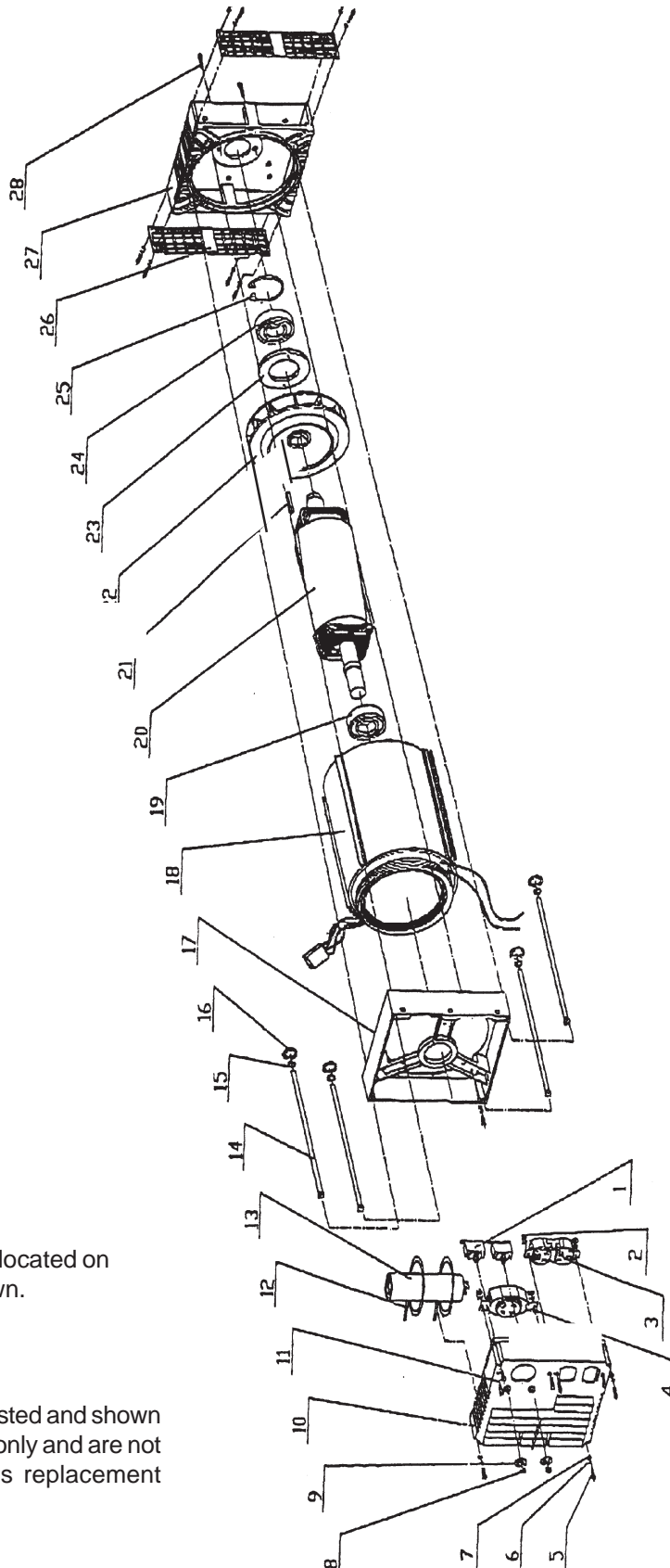
Parts List

Item #	Description	Qty
1	Over Current Protector (20 amp)	2
1A	Over Current Protector (30 amp)	2
2	Spring washer, GB93-87, M4	4
3	AC Socket, 120V/120V	1
4	AC Socket, 120V/240V	1
5	Bolt, GB818-85, M5x12	13
6	Spring Washer, GB93-87, M5	13
7	Washer, GB 97.1-85, 5	13
8	Over Current Protector Nut	2
9	Over Current Protector Washer	2
10	Wiring Box	1
11	Bolt, GB5783-B6, M4x10	4
12	Fastener Clip	2
13	Capacitor	1
14	Bolt, GB5782-86, M8x280	4
15	Spring Washer, GB 93-87, 8	4
16	Washer, 8	4
17	Front Cover	1
18	Stator	1
19	Axle Tree, GB 278-89, 80204	1
20	Rotator	1
22	Fan	1
23	Baffle	1
24	Axle Tree, GB278-89, 80206	1
25	Washer, GB 894.1-86-30	1
26	Fan Cover	2
27	Back Cover	1
28	Bolt, GB5783-86, M5x25	2
29	Voltmeter	2

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

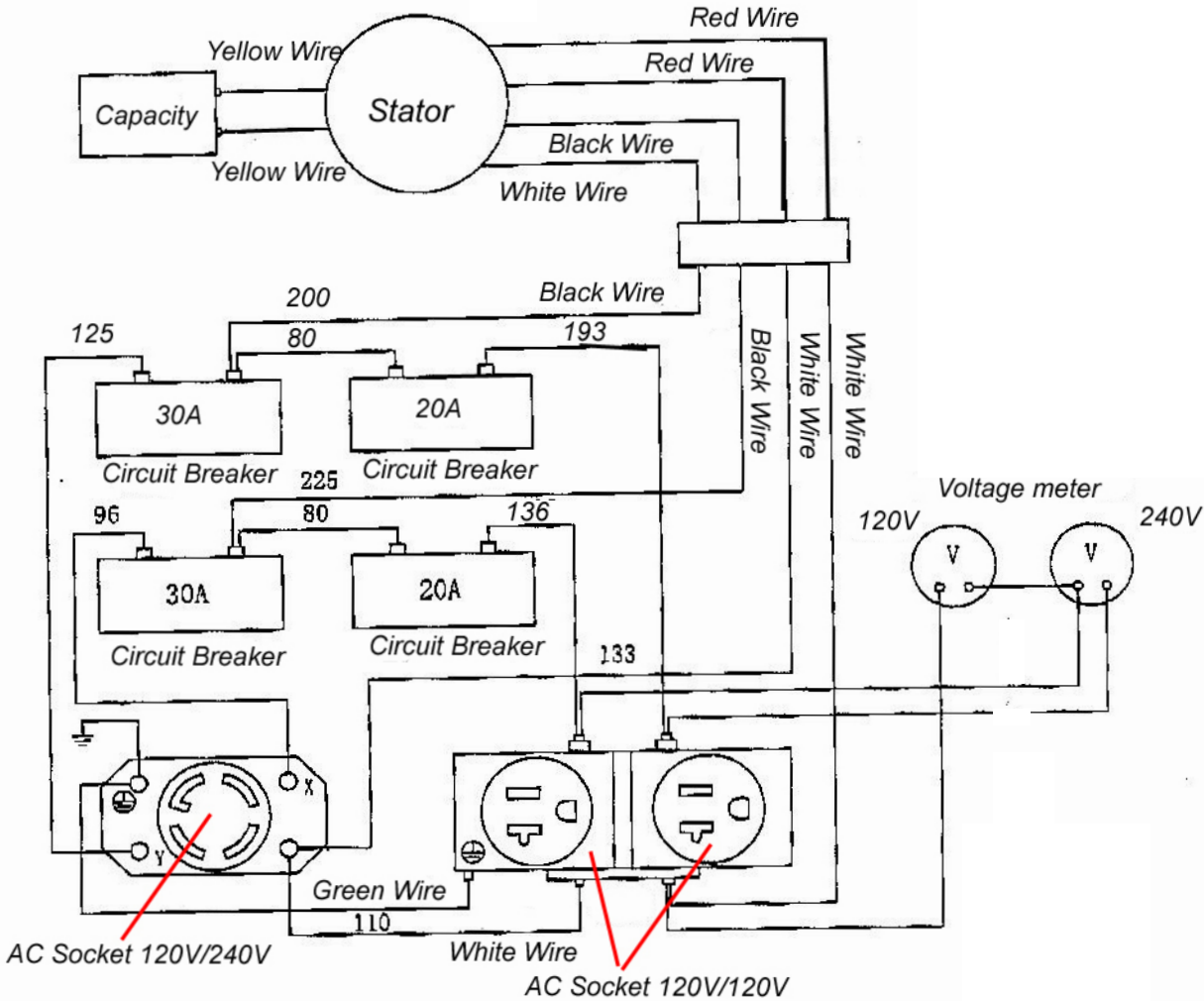
Assembly Drawing



Note: Voltmeters (#29) located on Wiring Box are not shown.

NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

Schematic Diagram



Remark: The Output Voltage of 'X' & 'Y' is 240V, others are 120V